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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/419,817	10/18/1999	XIAOHUA HUANG	03848.80923	1848

22907 7590 06/13/2002

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EXAMINER

FORMAN, BETTY J

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 06/13/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/419,817

Applicant(s)

HUANG ET AL.

Examiner

BJ Forman

Art Unit

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 24 May 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
(a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ they raise the issue of new matter (see Note below);
(c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached Continuation of Advisory Action.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1-16 and 23-38.

Claim(s) withdrawn from consideration: _____

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

Continuation of Advisory Action

Response to Applicant's Remarks

Applicant argues that the examiner has not established motivation for combining the teaching of Vary and Lane.

Applicant argues that Vary does not teach a primer comprising a 5' portion which is identical in sequence to all or part of a probe on a solid support and does not teach amplifying with a primer pair. Applicant acknowledges that Lane does teach the missing elements of Vary, but Applicant argues, one of skill in the art would not have been motivated to modify the teachings of Vary with Lane's teaching to arrive at the claimed invention. In response to the motivation provided in the Office Action (i.e. detecting the presence of a polymorphism in the coding strand), Applicant argues that one strand of the target DNA provides exactly the same amount of information as the other and therefore detecting the coding strand would provide no additional benefit. The argument has been considered but is not found persuasive because while the coding and non-coding strands of the target DNA contain the same amount of information, the information (i.e. sequence) is not the same. Because the information is different, the skilled practitioner in the art would have been motivated to detect the presence of the polymorphism in the coding strand because the coding strand determines function. Additionally, because the information (i.e. sequence) is different, one of skill in the art having a probe which detects the sequence of the polymorphism in the coding strand would have been motivated to detect the coding strand to thereby detect the presence of the polymorphism because their coding strand-specific probe would not detect the polymorphism in the non-coding strand.

Applicant argues the motivation provided by the examiner (i.e. more accurately determine the presence of polymorphic locus by analyzing the presence and quantity of both the first and second strands) is not sufficient because Vary does not teach or suggest a more

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accurate determination of polymorphism is desired and that Lane does not teach that their amplification proved more accurate and therefore, the motivation suggested is not supported by evidence. The argument has been considered but is not found persuasive because Lane specifically teaches that their localized amplification increases analyte-detection sensitivity (Column 3, lines 48-65, Column 5, lines 24-45 and Column 6, lines 26-41). Therefore, one skilled in the art would have been motivated to apply the primers and amplification of Lane to the method of Vary for the expected benefits of increased polymorphism-detection sensitivity as suggested by Lane thereby increasing the sensitivity of the Vary method.

The strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983) (see MPEP 2144).

Applicant argues that Hames, Lapidus, Mullan and Lockhart do not supply the motivation to combine the teaching of Vary and Lane. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as discussed above, one of skill in the art would have been motivated to combine the teachings of Vary and Lane to thereby increase polymorphism-detection sensitivity as suggested by Lane (Column 3, lines 48-65, Column 5, lines 24-45 and Column 6, lines 26-41).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.


BJ Forman, Ph.D.
Patent Examiner
Art Unit: 1634
June 4, 2002


W. Gary Jones
Supervisory Patent Examiner
Technology Center 1600